Virtual Hosting With PureFTPd And MySQL (Incl. Quota And Bandwidth Management) On Ubuntu 7.10 (Gutsy Gibbon)

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This document describes how to install a PureFTPd server that uses virtual users from a MySQL database instead of real system users. This is much more performant and allows to have thousands of ftp users on a single machine. In addition to that I will show the use of quota and upload/download bandwidth limits with this setup. Passwords will be stored encrypted as MD5 strings in the database.

For the administration of the MySQL database you can use web based tools like phpMyAdmin which will also be installed in this howto. phpMyAdmin is a comfortable graphical interface which means you do not have to mess around with the command line.

This tutorial is based on Ubuntu 7.10 (Gutsy Gibbon). You should already have set up a basic Ubuntu 7.10 server system, as described in the first nine chapters of this tutorial: http://www.howtoforge.com/perfect_server_ubuntu7.10

This howto is meant as a practical guide; it does not cover the theoretical backgrounds. They are treated in a lot of other documents in the web.

This document comes without warranty of any kind! I want to say that this is not the only way of setting up such a system. There are many ways of achieving this goal but this is the way I take. I do not issue any guarantee that this will work for you!

1 Preliminary Note

In this tutorial I use the hostname *server1.example.com* with the IP address *192.168.0.100*. These settings might differ for you, so you have to replace them where appropriate.

Make sure that you are logged in as root (type in

```
sudo su
```

to become root), because we must run all the steps from this tutorial as root user. Also, if you want to use *vi* as your text editor (as suggested by this tutorial), you should run

```
apt-get install vim-full
```

The *vim-full* package makes sure that the *vi* text editor behaves as expected (without *vim-full*, you might experience some strange behaviour in the *vi* text editor).

2 Install MySQL And phpMyAdmin

This can all be installed with one single command:

```
apt-get install mysql-server mysql-client libmysqlclient15-dev phpmyadmin apache2
```

You will be asked two questions:

New password for the MySQL "root" user: <-- yourrootsqlpassword (password of your choice)
Web server to reconfigure automatically: <-- apache2

3 Install PureFTPd With MySQL Support

For Ubuntu 7.10 there is a pre-configured *pure-ftpd-mysql* package available. Install it like this:

```
apt-get install pure-ftpd-mysql
```

Then we create an ftp group (*ftpgroup*) and user (*ftpuser*) that all our virtual users will be mapped to. Replace the group- and userid *2001* with a number that is free on your system:

```
groupadd -g 2001 ftpgroup
useradd -u 2001 -s /bin/false -d /bin/null -c "pureftpd user" -g ftpgroup ftpuser
```

4 Create The MySQL Database For PureFTPd

Now we create a database called *pureftpd* and a MySQL user named *pureftpd* which the PureFTPd daemon will use later on to connect to the *pureftpd* database:

```
mysql -u root -p
```

```
CREATE DATABASE pureftpd;
GRANT SELECT, INSERT, UPDATE, DELETE, CREATE, DROP ON pureftpd.* TO 'pureftpd'@'localhost'
IDENTIFIED BY 'ftpdpass';
GRANT SELECT, INSERT, UPDATE, DELETE, CREATE, DROP ON pureftpd.* TO
'pureftpd'@'localhost.localdomain' IDENTIFIED BY 'ftpdpass';
FLUSH PRIVILEGES;
```

Replace the string *ftpdpass* with whatever password you want to use for the MySQL user *pureftpd*. Still on the MySQL shell, we create the database table we need (yes, there is only one table!):

```
USE pureftpd;
```

```
CREATE TABLE ftpd (
User varchar(16) NOT NULL default '',
status enum('0','1') NOT NULL default '0',
Password varchar(64) NOT NULL default '',
Uid varchar(11) NOT NULL default '-1',
Gid varchar(11) NOT NULL default '-1',
Dir varchar(128) NOT NULL default '',
ULBandwidth smallint(5) NOT NULL default '0',
DLBandwidth smallint(5) NOT NULL default '0',
comment tinytext NOT NULL,
ipaccess varchar(15) NOT NULL default '*',
QuotaSize smallint(5) NOT NULL default '0',
QuotaFiles int(11) NOT NULL default 0,
PRIMARY KEY (User),
UNIQUE KEY User (User)
) TYPE=MyISAM;
```

```
quit;
```

As you may have noticed, with the *quit;* command we have left the MySQL shell and are back on the Linux shell.

BTW, (I'm assuming that the hostname of your ftp server system is *server1.example.com*) you can access phpMyAdmin under *http://server1.example.com/phpmyadmin/* (you can also use the IP address instead of *server1.example.com*) in a browser and log in as the user *pureftpd*. Then you can have a look at the database. Later on you can use phpMyAdmin to administrate your PureFTPd server.

5 Configure PureFTPd

Edit */etc/pure-ftpd/db/mysql.conf*. It should look like this:

```
cp /etc/pure-ftpd/db/mysql.conf /etc/pure-ftpd/db/mysql.conf_orig
cat /dev/null > /etc/pure-ftpd/db/mysql.conf
vi /etc/pure-ftpd/db/mysql.conf
```

```
MYSQLSocket      /var/run/mysqld/mysqld.sock
#MYSQLServer     localhost
#MYSQLPort       3306
MYSQLUser       pureftpd
MYSQLPassword   ftpdpass
```

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```
MYSQLDatabase   pureftpd
#MYSQLCrypt md5, cleartext, crypt() or password()
MYSQLCrypt      md5
MYSQLGetPW      SELECT Password FROM ftpd WHERE U
MYSQLGetUID     SELECT Uid FROM ftpd WHERE User="
MYSQLGetGID     SELECT Gid FROM ftpd WHERE User="
MYSQLGetDir     SELECT Dir FROM ftpd WHERE User="
MySQLGetBandwidthUL SELECT ULBandwidth FROM ftpd
```

Make sure that you replace the string *ftpdpass* with the real password for the MySQL user *pureftpd* in the line *MYSQLPassword*! Please note that we use md5 as *MYSQLCrypt* method, which means we will store the users' passwords as an MD5 string in the database which is far more secure than using plain text passwords!

Then create the file */etc/pure-ftpd/conf/ChrootEveryone* which simply contains the string *yes*:

```
echo "yes" > /etc/pure-ftpd/conf/ChrootEveryone
```

This will make PureFTPd chroot every virtual user in his home directory so he will not be able to browse directories and files outside his home directory.

Also create the file */etc/pure-ftpd/conf/CreateHomeDir* which again simply contains the string *yes*:

```
echo "yes" > /etc/pure-ftpd/conf/CreateHomeDir
```

This will make PureFTPd create a user's home directory when the user logs in and the home directory does not exist yet.

Afterwards, we restart PureFTPd:

```
/etc/init.d/pure-ftpd-mysql restart
```

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